Unit 06 – Website Development

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Learning Aim A1 – Purpose and Principles of Website Development

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A2
Factors Affecting Website Performance

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Learning Objectives

To be able to explain the principles of client and server-side scripts.

To be able to explain browser compliance.

To be able to explain the impact of client and server side factors on website performance.

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Client and Server Side Scripts

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What Are Scripts?

Scripts are small pieces of code that can add functionality to your website.

They can be found either on the client or the server.

They can be written in different languages and do different things.

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Client Side Scripts

- These are found in the web page that is downloaded by the client computer.
- They are usually written in JavaScript.
- They can add functionality to a page – like animating drop down menus or swapping images.
- They can validate data entered into a form before it is sent to a server.

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Client Side Scripts

- The next slide shows Client-Side scripting on www.thecomputingtutor.com.
- The banner text changes every 5 seconds.
- The menu colours change when a mouse hovers over them.
- The menu pops open when a mouse hovers over them.
- The main page images move when the arrows are clicked.
- All of this is done with Client-Side JavaScript.

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Client Side Scripts - Video

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Server Side Scripts

- These run on the webserver itself.
- A Server-Side script will create a page that is customised to a user request.
- It might extract data from a CMS database.
- Server-side scripts could be written using JSP, PHP, ASP.NET, C++ and Java.
- Some client side scripts – ***JSON*** and ***JQUERY*** – can connect directly back to the server.

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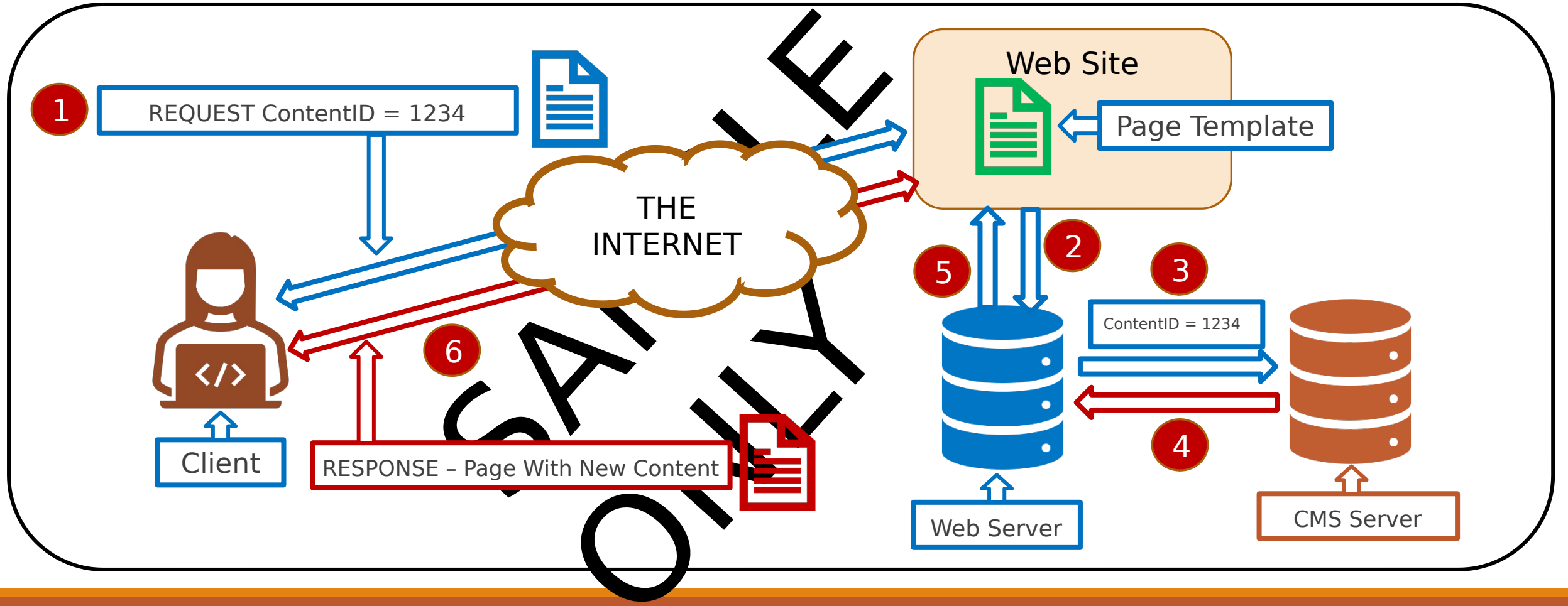
Server Side Script Example



SAMPLE ONLY

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Server Side Script Example

1 - Client requests a new page with the content ID 1234.

2 & 3 - The Content ID request is sent to the CMS database from the webserver.

4 & 5 - The CMS loads the new content into the page template.

6 - The new content is transmitted back over the internet to the Client.

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Server Side Scripts

- These can slow down a website.
- It can make a page take a long time to download into a browser.
- The server might be getting data from other computers.
- It might be loading files from a hard drive.
- The server might be busy doing other things.

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Client and Server Side Scripting Example

- The best example of a Client and Server-Side script is a login system.
- The login form is on the client and uses Client-Side Scripting.
- Once the form is filled out it is sent to the server.
- The form data is used for Server-Side Scripting.

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Client and Server Side Scripting Example

Client Side Scripting	Server Side Scripting
Make sure user name form field is filled in	Check username exists in database

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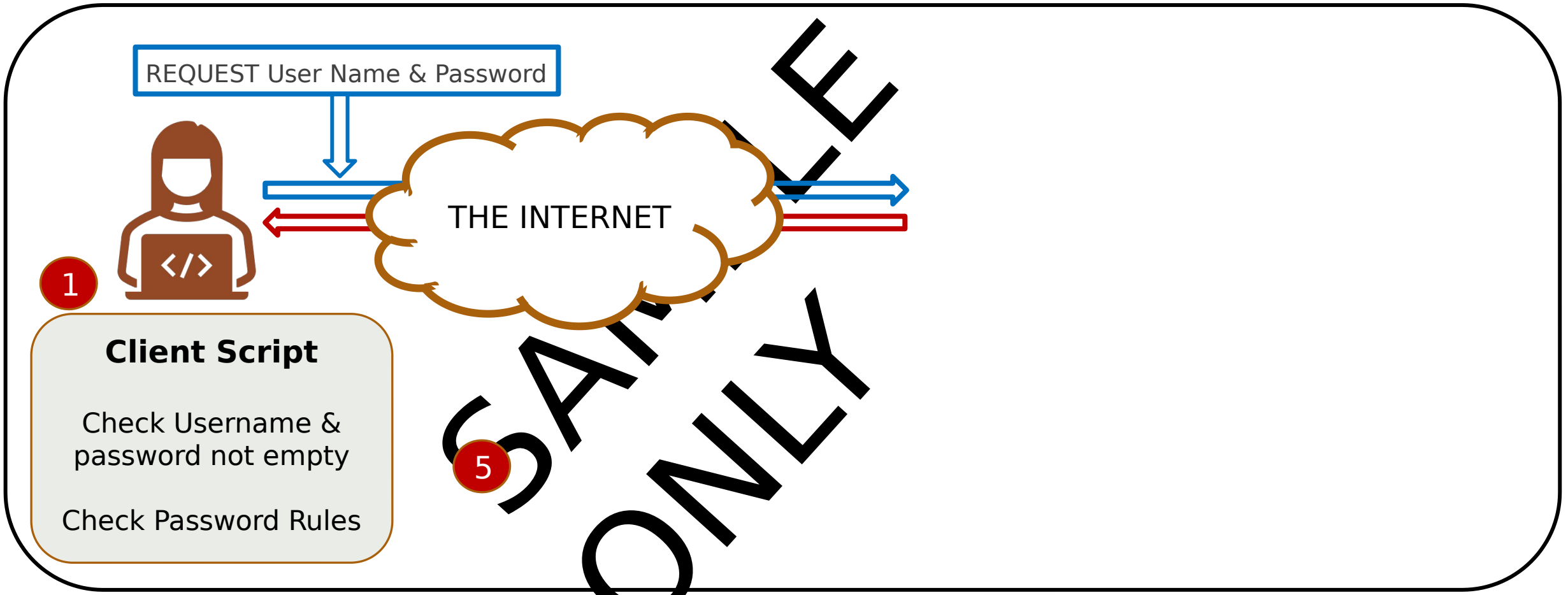
Client and Server Side Scripting Example



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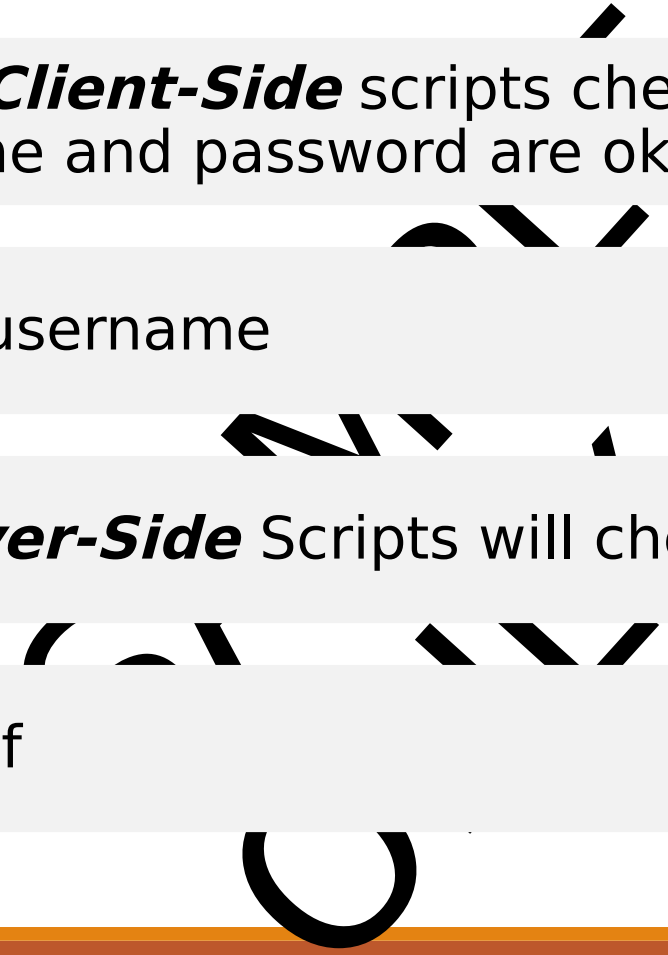
Client and Server Side Scripting Example

1 - The ***Client-Side*** scripts check to make sure that the username and password are ok before sending to the server.

2 - The username

3 - ***Server-Side*** Scripts will check

4 & 5 - If



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Class Tasks 2.1 – Client and Server Side Scripts

- Look at the range of websites given to you.
- For each one, identify the Client Side and Server-Side elements on each page.
- Discuss your findings with the group.
- **Time allowed: 15 minutes**

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Class Discussion

All of these websites were downloaded as an archive in September 2022.

The current live site might have changed from the one you are looking at.

Look at the current site on the web as it is today and compare it to the archive page.

Is the current site use of scripting different, is the current site user of scripting better? Explain how this is.

TIME ALLOWED: 15 minutes

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Self-Check: Lesson Review

- Do I understand what is meant Client and Server-side scripts?
- Can I identify where Client and Server-side scripts are being used on a web page?
- Can explain why browser compliance is important?
- Can explain how Server-side factors can affect page download speeds?
- Can I explain how Client-side factors can affect page download speeds?

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Further Reading

Websites

https://www.cloudflare.com/learning/serverless/glossary/client-side-vs-server-side/

Videos

https://www.youtube.com/watch?v=IyzWO85I_LU

Textbook: pp342 - 345

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